

1.1. Contact Information

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1.2. Submitting Categories

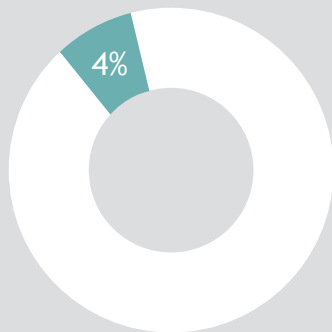
- Professional
- Cradle to Cradle Certified™ Material
- Aluminum

2.2. Image



2.1. Product title and description • Facts

The amount of waste from households in The Netherlands is huge, disregarding the rest of the western world. People are more and more aware of splitting their waste into categories and are making sure their waste can be recycled. Nevertheless there is still a lot of waste that cannot be split into this system so easily.



4% of Dutch household waste
is casted by diapers



This results into 144
million kilo waste each
year, Netherlands only.

Product title and description • Design

The 'Circular Diaper Bin' is designed for the consumer market, but can also be used by larger nursing homes. The base material which is used is a recycled PP made from, yes you are correct, diapers! To make the bin suitable for disassembly, no glue or irreversible fixing is used. Also to reduce the amount of small parts, the design doesn't include a lot of hinges. This product design is designed to inspire others to work on this issue of waste!



Circular Diaper Bin

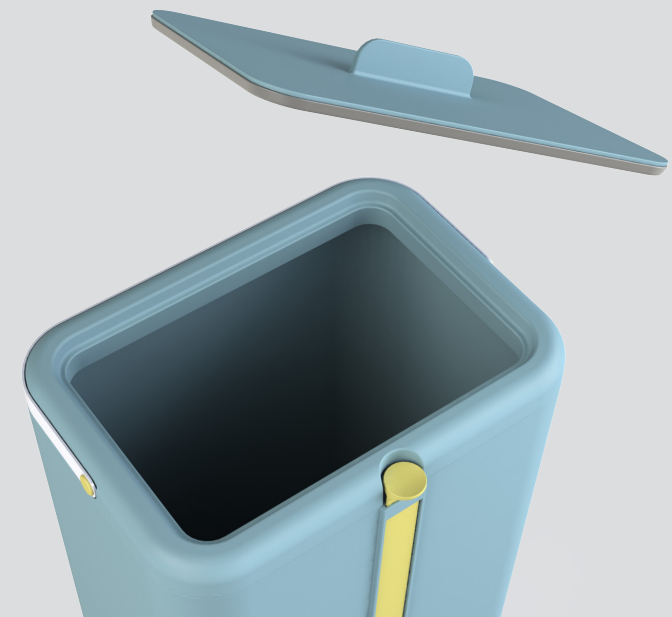
2.3. Illustration of the product's system



2.1. Product title and description • Use & system

The lid is airtight by a rubber lining and can be lift off by hand. The bin is intended to be used without any plastic bags, to not increase the amount of waste. To avoid smells and stains the used diapers should be nicely folded and closed. When the bin is full, you can easily carry the bin by its aluminum handle. You can empty it above a larger container or at a collection spot provided by the council. The bin has a nice volume, but it is compact enough to take by bike or foot. By pushing the yellow button on top, the lid on the bottom is pushed open. The diapers will fall out through the opening, so no hands get dirty!

Also for nursing homes they can use the bins on various departments, so they can easily dispose the waste into a large container in a waste room, so the council or a recycle company can pick these up. Because beware, not only baby diapers are causing all this waste!



3.0 Reutilization Cycle & Business Model.

As the illustration on page 2 shows, the design itself is made out of recycled materials, which can be recycled over and over. If new material is needed in this process, it is best to use a Bio based Polymer. This material is made out of natural resources and is therefore more environment friendly then oil based.

The 'Circular Diaper Bin' is designed for disassembly, it would be possible to provide a service where people can buy new parts and send back the disabled parts, by a company take back program. This will give the bin a longer life span.

If the bin is no longer needed in terms of diaper waste, it can also be used for other household waste. Because of the natural design of the bin, it isn't necessarily only a baby room item. So no need to get rid of too soon!

When the bin is really on its end of life it would be a supportive feature if the diaper bin can be returned to the producer and/or retailer. So the bins come right into the right place for reuse and recycling. Proper parts can be used for repairs and reproductions, others can be taken apart and be recycled. Hereby they facilitate and encourage the users to separate this type of waste the best way they can!

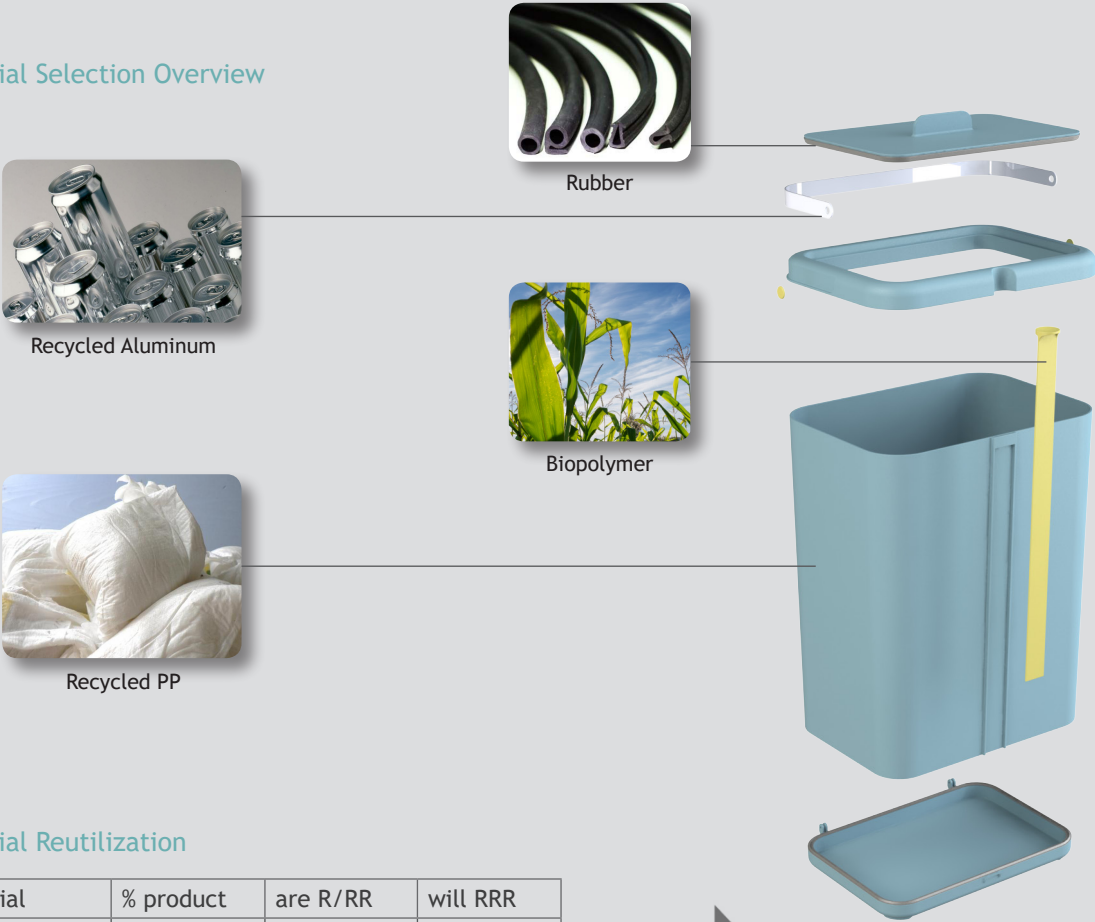


With this design we hope to also shape up councils and stimulate this recycle process. The more councils can facilitate collection spots, just like glass and paper, the more people will try to split this waste from their households as well.

New recycled processes and habits might go by baby steps, but let's all try to do our best and not just a little more less bad!



4.1. Material Selection Overview



Recycled Aluminum



Rubber



Biopolymer



Recycled PP

4.2. Material Reutilization

Material	% product	are R/RR	will RRR
Recycled PP	85%	100%	100%
Biopolymer	10%	100%	100%
Aluminum	2%	95%	100%
Rubber	2%	0%	100%
Additional	1%	0%	0%



4.3. Material Health

Recycled PP and Biopolymer
NFPA Rating: 0
Contains no known toxic chemicals as used.

Only harmful by fire or consumption.

Recycled Aluminum
NFPA Rating: 0
Although some toxic materials are present during the recycling process, it is much more efficient to recycle aluminum instead of producing with virgin material.

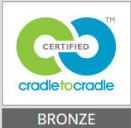
Rubber
NFPA Rating: 1
Contains no known toxic chemicals as used.

Only harmful by fire or consumption.

4.4. Impact Statement

Choosing the proper materials is one of the most important parts of the design process to contribute to the circular economy. Designing something for disassembly is also crucial, but if it is for example made of PVC you will not be successful getting a C2C Certification.

The C2C Certificated materials used into this design:



Aluminum Can Sheet by ALCOA, INC.
Silver for Material Health
Gold for Material Reutilization
Bronze for Renewable Energy & Carbon Management, Water Stewardship and Social Fairness.

This material is beneficial for the design since the manufacture technique is suitable for the aluminum handle.



Ingeo Biopolymer 3052D by NATUREWORKS, LLC.
Gold for Material Health and Material Reutilization
Bronze for Renewable Energy & Carbon Management, Water Stewardship and Social Fairness.

This material is perfect for the design, because it is suitable for injection molding of the two bio based parts.



Disposable Inserts by GDIAPERS
Silver for Material Health, Material Reutilization, Renewable Energy & Carbon Management, Water Stewardship and Social Fairness.

This product is not used into the bin itself, but it's complementary to this vision of reducing the diaper waste. It can be combined with the Circular Diaper Bin, even though it might be biodegradable diaper waste.